FIG. 1

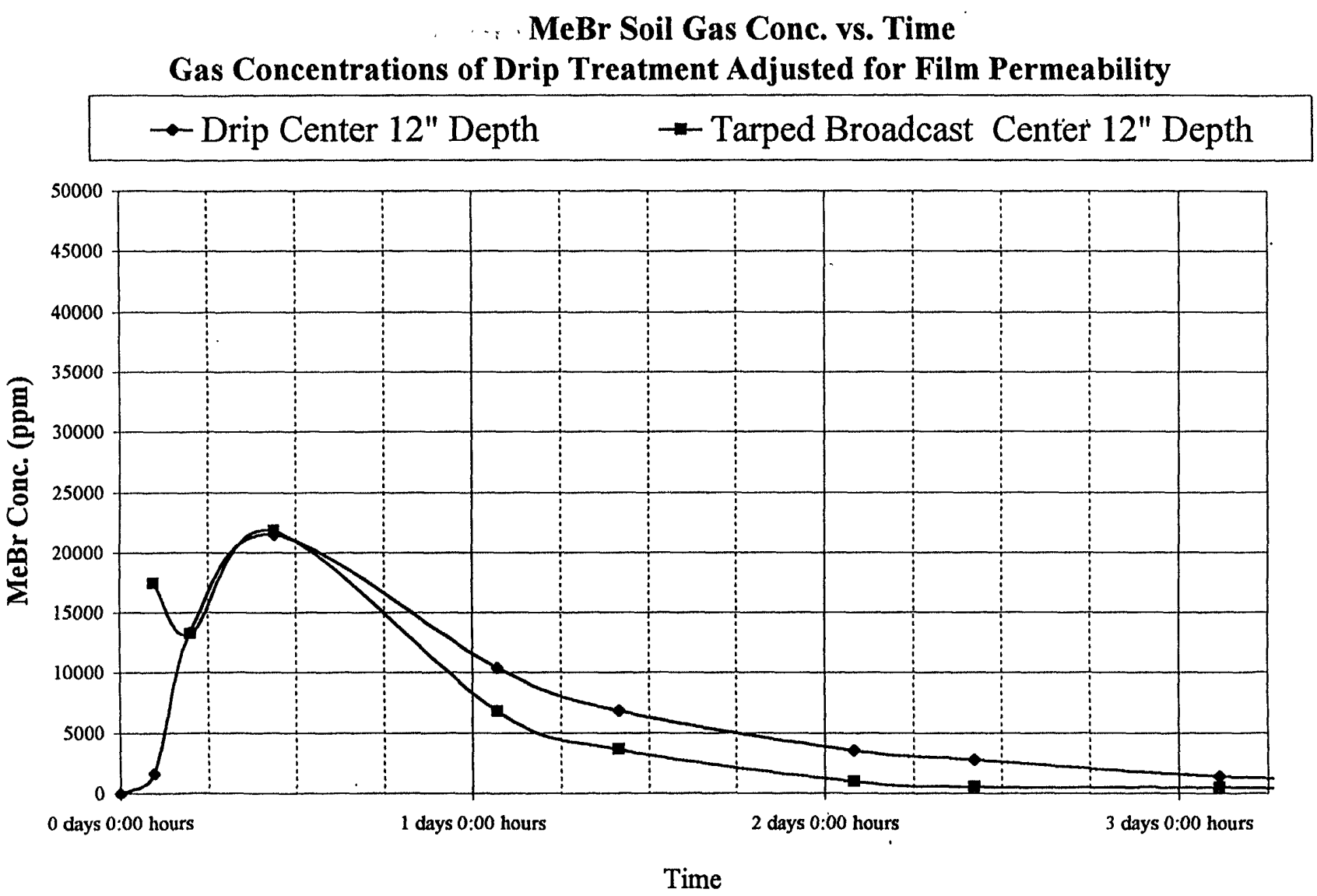

MeBr Soil Gas Conc. vs. Time
Gas Concentrations of Drip Treatment Adjusted for Film Permeability
Drip Center 12" Depth
Tarped Broadcast Center 12" Depth
MeBr Conc. (ppm)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
0 days 0:00 hours
1 days 0:00 hours
2 days 0:00 hours
3 days 0:00 hours
Time

Fig. 2a

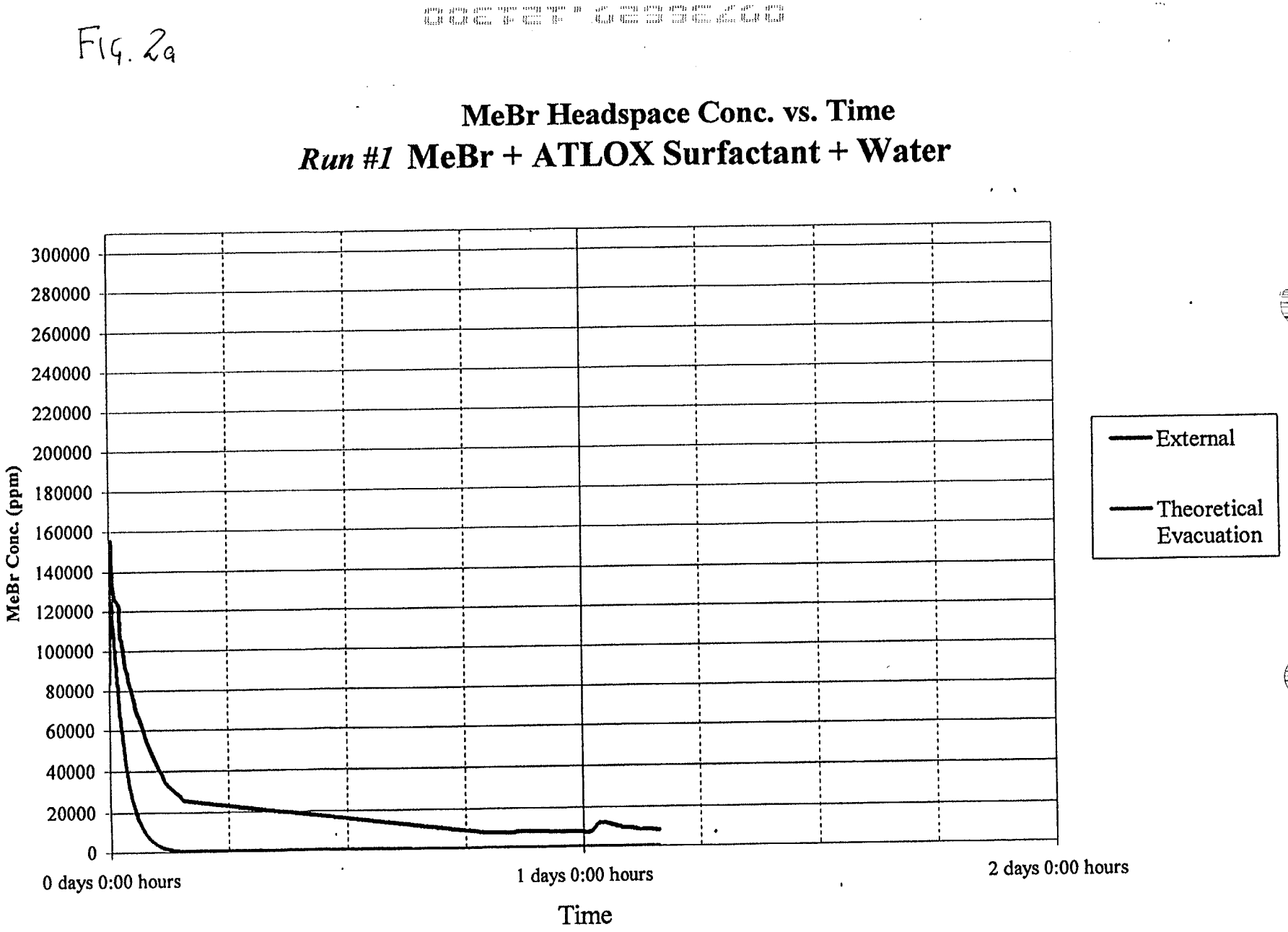

MeBr Headspace Conc. vs. Time
Run #1 MeBr + ATLOX Surfactant + Water
MeBr Conc. (ppm)
300000
280000
260000
240000
220000
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
0 days 0:00 hours
1 days 0:00 hours
2 days 0:00 hours
Time
External
Theoretical Evacuation

Fig. 2b

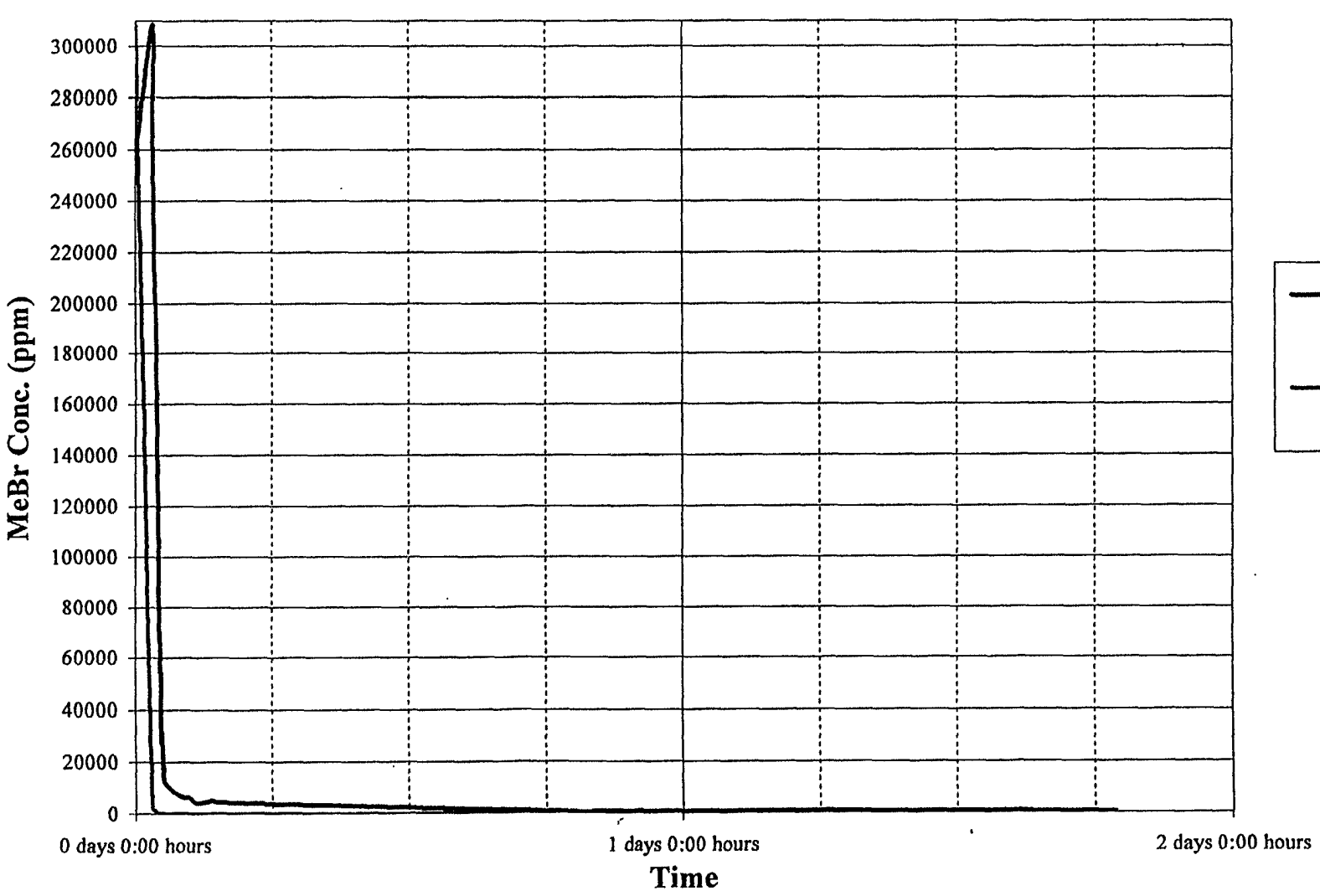
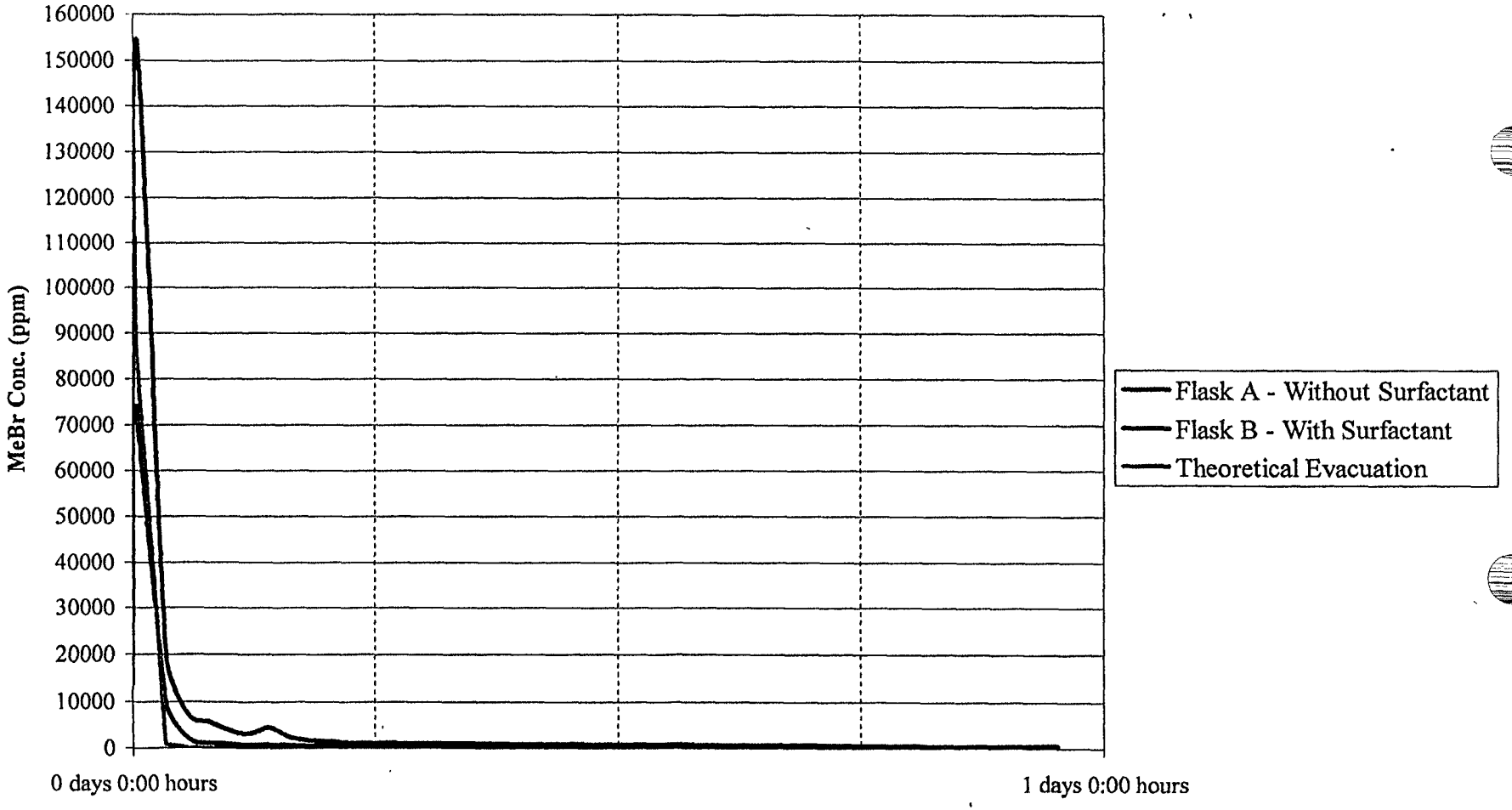

MeBr Headspace Conc. vs. Time
Run #2 MeBr + Water
MeBr Conc. (ppm)
300000
280000
260000
240000
220000
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
0 days 0:00 hours
1 days 0:00 hours
2 days 0:00 hours
Time
MB Conc.
Theoretical Evacuation

Fig. 2c

MeBr Headspace Conc. vs. Time

Run #3 & #4 MeBr With and Without ATLOX Surfactant



FLASK A had 2 mL of MeBr added, FLASK B had 0.5 mL added.

FIG. 3

Treatment of different types of tubing with Chloropicrin formulation

Tubing Type	Immediate Rx	Wall Thickness after 15 Hours	Elasticity/ Strength after 15 Hours	General Appearance Integrity After 15 Hours
Black Seamless Latex	none	no change	maintained	no effect
FEP Teflon	none	no change	maintained	no effect
Nalgene 860 Tissue Culture Grade	none	no change	maintained	sticky
Manosilt	none	no change	maintained	no effect
Tygon R3603	none	reduced thickness	reduced slightly	appeared melted
Nalgene 180 Premium PVC	none	reduced thickness	reduced slightly	slightly opaque, appeared melted

FIG. 4.

Nematode Efficacy - Chloropicrin Drip Application of Various EC Percentages

Summary of Results

	Nematode Species ¤							
Cylinder #	Root Knot (Meloidogyne)	Dagger (Xiphinema)	Citrus	Pin	Root Knot (Meloidogyne)	Dagger (Xiphinema)	Citrus	Pin
	——— Counts ———				—— Adjusted Counts —— §			
1	5	*3*	168		15	*9*	504	*0*
2	22	*4*	216	*28*	66	*12*	648	*84*
3	1	*2*	456		3	*6*	1368	*0*
4	49		338	*9*	147	*0*	1014	*27*
5	0		7		0	*0*	21	*0*
6	23		40	*4*	69	*0*	120	*12*
7	112		80	*14*	336	*0*	240	*42*
8	29		79		87	*0*	237	*0*
9	0		114		0	*0*	342	*0*
10	16		72		48	*0*	216	*0*
11	22		160		66	*0*	480	*0*
12	29		87		87	*0*	261	*0*
13	115		136		345	*0*	408	*0*
14	16		30		48	*0*	90	*0*
15	22		31		66	*0*	93	*0*
16	79		82		237	*0*	246	*0*
17	15		17		45	*0*	51	*0*
18	30		81		90	*0*	243	*0*
19	69		109		207	*0*	327	*0*
20	26		68		78	*0*	204	*0*

§ 33% extraction efficiency, measured values multiplied by 3

¤ ***No counts were obtained for Ring nematode statistical analysis.***

Fig. 5a

Chloropicrin EC - Lab Tests for Weed Seed Mortality

PIGWEED

Weed Seed: *Amaranthus retroflexus* Treatment Date = 10/28/1999 Number of Seeds/Dish = 100

		Seed Germination Counts								(% Mortality)										
		Date of Count = 11/5/1999 Elapsed Time from Treatment = 8 Days				Date of Count = 11/9/1999 Elapsed Time from Treatment = 12 Days														
	Treatment	1st Count				2nd Count				1st Count				1st Count at 8 Days	2nd Count				2nd Count at 12 Days	% Mortality Above Control
Seed Age	Treatment Solution	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Mean	Rep 1	Rep 2	Rep 3	Rep 4	Mean	
NEW SEED	Control 0 ppm, 0% Emulsifier	26	29	15	20	75	66	55	75	74%	71%	85%	80%	78%	25%	34%	45%	25%	32%	0%
NEW SEED	0 ppm, 5% Emulsifier	13	9	10	14	15	16	21	32	87%	91%	90%	86%	89%	85%	84%	79%	68%	79%	47%
NEW SEED	0 ppm, 50% Emulsifier	6	2	12	4	10	4	19	6	94%	98%	88%	96%	94%	90%	96%	81%	94%	90%	58%
NEW SEED	500 ppm, 5% Emulsifier	0	3	1	4	0	3	1	4	100%	97%	99%	96%	98%	100%	97%	99%	96%	98%	66%
NEW SEED	500 ppm, 50% Emulsifier	0	2	0	2	3	6	3	7	7%	98%	100%	98%	76%	97%	94%	97%	93%	95%	63%
NEW SEED	1000 ppm, 5% Emulsifier	4	1	1	0	9	2	1	1	96%	99%	99%	100%	99%	91%	98%	99%	99%	97%	65%
NEW SEED	1000 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	68%
OLD SEED	Control 0 ppm, 0% Emulsifier																			
OLD SEED	0 ppm, 5% Emulsifier																			
OLD SEED	0 ppm, 50% Emulsifier																			
OLD SEED	500 ppm, 5% Emulsifier																			
OLD SEED	500 ppm, 50% Emulsifier																			
OLD SEED	1000 ppm, 5% Emulsifier																			
OLD SEED	1000 ppm, 50% Emulsifier																			

NEW SEED

HIGHLY SIGNIFICANT DIFFERENCE @ 99%

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Row 1	4	1.29	0.3225	0.009025
Row 2	4	3.16	0.79	0.0060667
Row 3	4	3.61	0.9025	0.004425
Row 4	4	3.92	0.98	0.0003333
Row 5	4	3.81	0.9525	0.000425
Row 6	4	3.87	0.9675	0.0014917
Row 7	4	4	1	0

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.3926	6	0.2321	74.641654	4.55E-13	5.880793
Within Groups	0.0653	21	0.00311			
Total	1.4579	27				

Fig. 5b

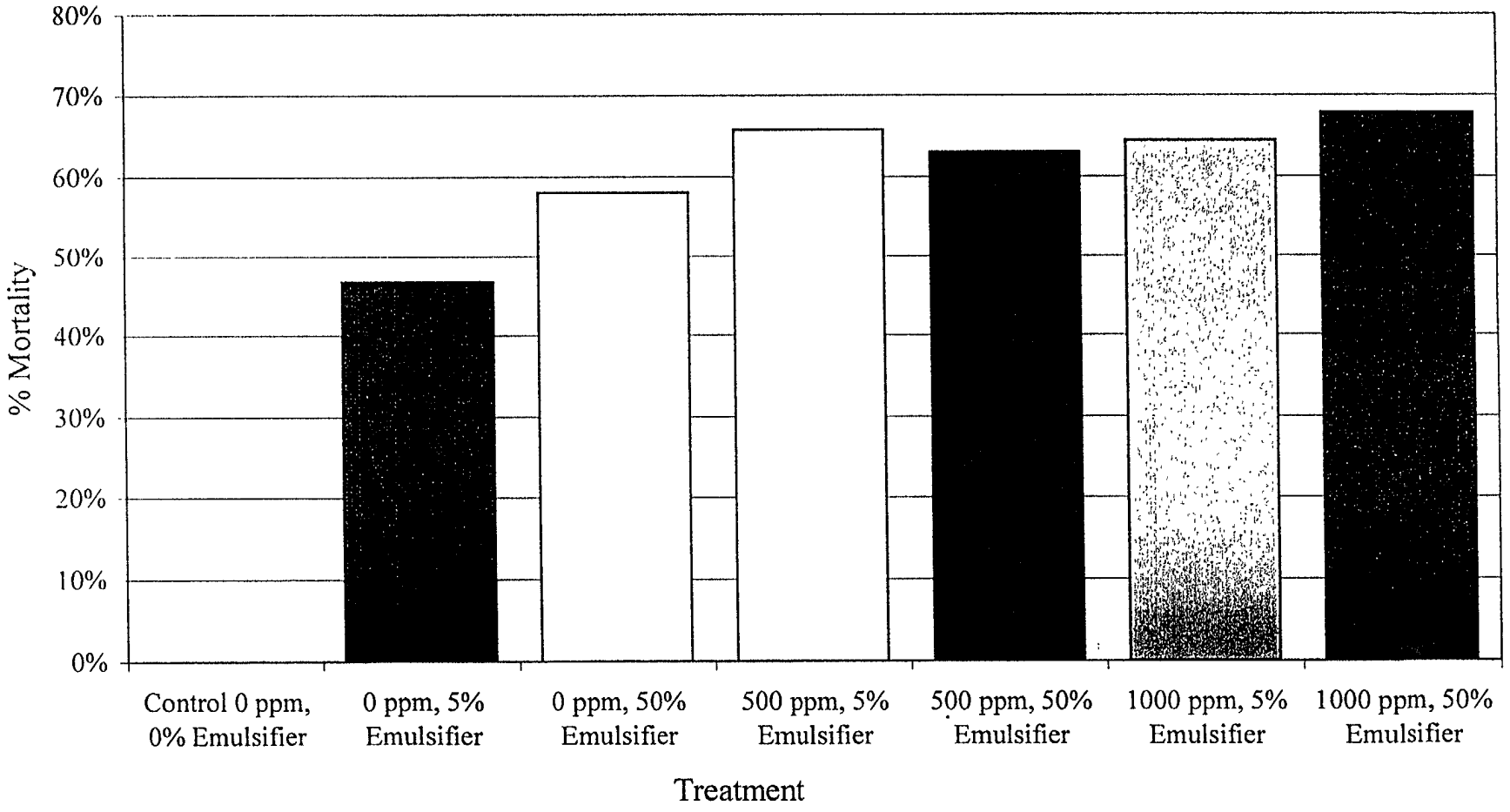

% Mortality of New Weed Seeds Over Control
Pigweed
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Mortality
Control 0 ppm, 0% Emulsifier
0 ppm, 5% Emulsifier
0 ppm, 50% Emulsifier
500 ppm, 5% Emulsifier
500 ppm, 50% Emulsifier
1000 ppm, 5% Emulsifier
1000 ppm, 50% Emulsifier
Treatment

FIG. 6a

Chloropicrin EC - Lab Tests for Weed Seed Mortality

WHITE SWEET CLOVER

Weed Seed: *Melilotus alba* Treatment Date = 10/28/1999 Number of Seeds/Dish = 100

		Seed Germination Counts								(% Mortality)									
		Date of Count = 11/5/1999				Date of Count = 11/9/1999													
		Elapsed Time from Treatment = 8 Days				Elapsed Time from Treatment = 12 Days													
	Treatment	1st Count				2nd Count				1st Count				1st Count at 8 Days	2nd Count				2nd Count at 12 Days	% Mortality Above Control
Seed Age	Treatment Solution	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Mean	Rep 1	Rep 2	Rep 3	Rep 4	Mean	
NEW SEED	Control 0 ppm, 0% Emulsifier	4	11	15	6	4	11	15	6	96%	89%	85%	94%	**91%**	96%	89%	85%	94%	**91%**	**0%**
NEW SEED	0 ppm, 5% Emulsifier	10	7	3	9	10	7	3	9	90%	93%	97%	91%	**93%**	90%	93%	97%	91%	**93%**	**2%**
NEW SEED	0 ppm, 50% Emulsifier	5	4	7	5	6	4	7	5	95%	96%	93%	95%	**95%**	94%	96%	93%	95%	**95%**	**4%**
NEW SEED	500 ppm, 5% Emulsifier	5	3	4	1	5	3	6	2	95%	97%	96%	99%	**97%**	95%	97%	94%	98%	**96%**	**5%**
NEW SEED	500 ppm, 50% Emulsifier	5	2	1	2	7	2	1	5	95%	98%	99%	98%	**98%**	93%	98%	99%	95%	**96%**	**5%**
NEW SEED	1000 ppm, 5% Emulsifier	1	2	3	0	1	4	3	0	99%	98%	97%	100%	**99%**	99%	96%	97%	100%	**98%**	**7%**
NEW SEED	1000 ppm, 50% Emulsifier	0	2	0	3	0	13	1	5	100%	98%	100%	97%	**99%**	100%	87%	99%	95%	**95%**	**4%**
OLD SEED	Control 0 ppm, 0% Emulsifier	15	11	4	9	30	25	11	27	85%	89%	96%	91%	**90%**	70%	75%	89%	73%	**77%**	**-3%**
OLD SEED	0 ppm, 5% Emulsifier	5	7	24	33	8	8	26	39	95%	93%	76%	67%	**83%**	92%	92%	74%	61%	**80%**	**0%**
OLD SEED	0 ppm, 50% Emulsifier	4	10	13	18	6	12	24	27	96%	90%	87%	82%	**89%**	94%	88%	76%	73%	**83%**	**3%**
OLD SEED	500 ppm, 5% Emulsifier	7	2	3	9	7	2	5	14	93%	98%	97%	91%	**95%**	93%	98%	95%	86%	**93%**	**13%**
OLD SEED	500 ppm, 50% Emulsifier	11	7	3	5	25	15	6	9	89%	93%	97%	95%	**94%**	75%	85%	94%	91%	**86%**	**7%**
OLD SEED	1000 ppm, 5% Emulsifier	23	3	0	12	23	3	0	12	77%	97%	100%	88%	**91%**	77%	97%	100%	88%	**91%**	**11%**
OLD SEED	1000 ppm, 50% Emulsifier	0	12	3	16	0	18	4	26	100%	88%	97%	84%	**92%**	100%	82%	96%	74%	**88%**	**8%**

NEW SEED — **No Significance**

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	4	3 64	0.91	0.0024667
Row 2	4	3 71	0.9275	0.0009583
Row 3	4	3 78	0.945	0.0001667
Row 4	4	3.84	0 96	0.0003333
Row 5	4	3 85	0.9625	0.0007583
Row 6	4	3 92	0 98	0 0003333
Row 7	4	3 81	0 9525	0.0034917

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0 013086	6	0.002181	1.7943193	0.14899	2.572712
Within Groups	0 025525	21	0.001215			
Total	0 038611	27				

OLD SEED — **No Significance**

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	4	3 07	0.7675	0.00709167
Row 2	4	3.19	0.7975	0 022825
Row 3	4	3 31	0.8275	0.009825
Row 4	4	3 72	0.93	0.0026
Row 5	4	3 45	0.8625	0.007025
Row 6	4	3 62	0.905	0 0107
Row 7	4	3 52	0.88	0 01466667

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0 08197	6	0.01366	1.27966102	0 30875	2 57271
Within Groups	0.2242	21	0.01068			
Total	0 30617	27				

FIG. 66

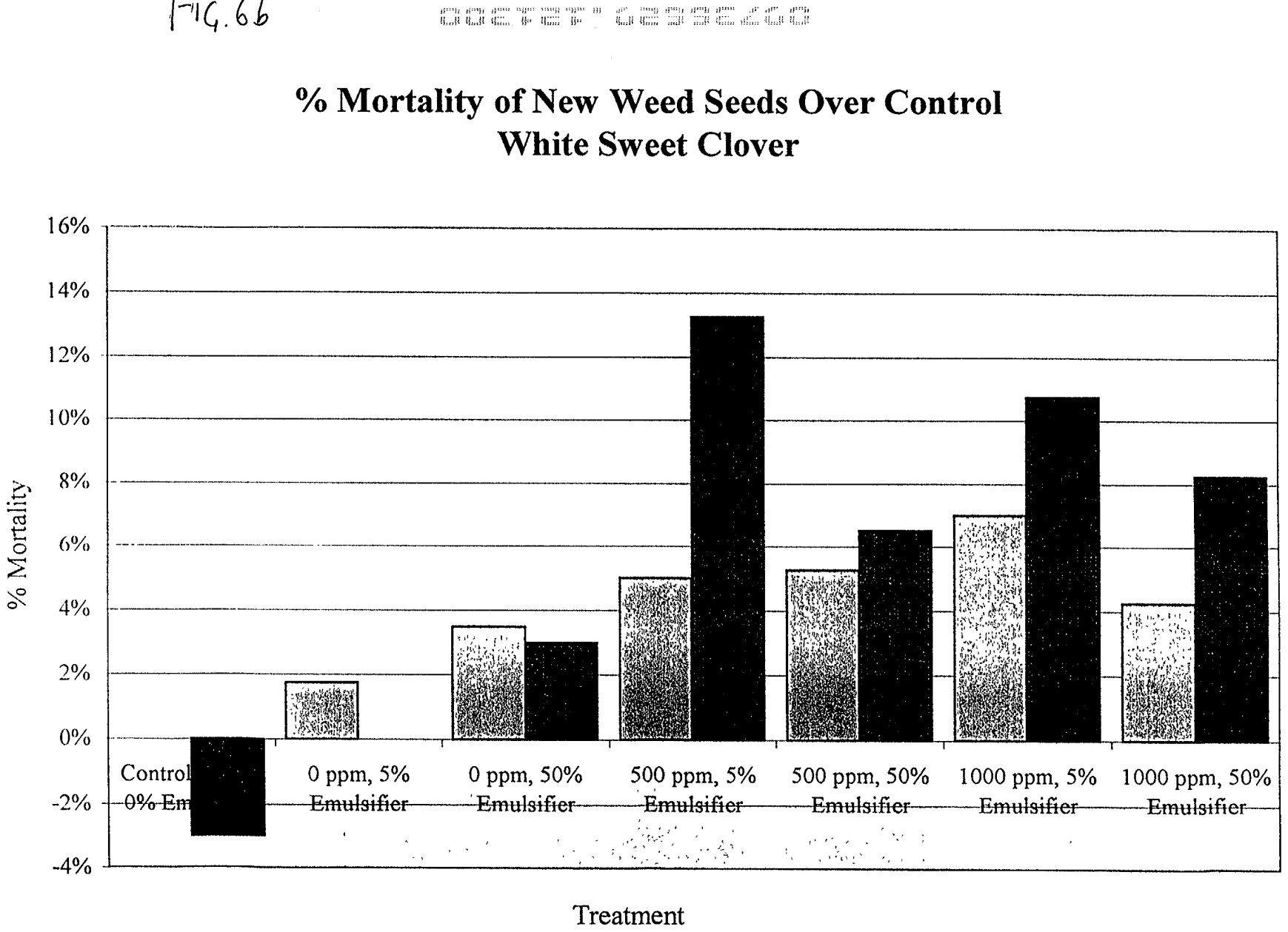

% Mortality of New Weed Seeds Over Control
White Sweet Clover
16%
14%
12%
10%
8%
6%
4%
2%
0%
-2%
-4%
% Mortality
Control
0% Em
0 ppm, 5% Emulsifier
0 ppm, 50% Emulsifier
500 ppm, 5% Emulsifier
500 ppm, 50% Emulsifier
1000 ppm, 5% Emulsifier
1000 ppm, 50% Emulsifier
Treatment

Fig. 7a

Chloropicrin EC - Lab Tests for Weed Seed Mortality
WILD MUSTARD

Weed Seed: *Brassica kaber* Treatment Date = 10/28/1999 Number of Seeds/Dish = 100

		Seed Germination Counts								(% Mortality)									
		Date of Count = 11/5/1999				Date of Count = 11/9/1999													
		Elapsed Time from Treatment = 8 Days				Elapsed Time from Treatment = 12 Days													
	Treatment	1st Count				2nd Count				1st Count				1st Count at 8 Days	2nd Count				2nd Count at 12 Days	% Mortality Above Control
Seed Age	Treatment Solution	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Mean	Rep 1	Rep 2	Rep 3	Rep 4	Mean	
NEW SEED	Control 0 ppm, 0% Emulsifier	35	38	40	33	60	51	49	54	65%	62%	60%	67%	**64%**	40%	49%	51%	46%	**47%**	**0%**
NEW SEED	0 ppm, 5% Emulsifier	34	29	32	28	80	78	75	79	66%	71%	68%	72%	**69%**	20%	22%	25%	21%	**22%**	**-25%**
NEW SEED	0 ppm, 50% Emulsifier	28	31	29	32	81	77	70	82	72%	69%	71%	68%	**70%**	19%	23%	30%	18%	**23%**	**-24%**
NEW SEED	500 ppm, 5% Emulsifier	34	16	35	36	82	72	91	88	66%	84%	65%	64%	**70%**	18%	28%	9%	12%	**17%**	**-30%**
NEW SEED	500 ppm, 50% Emulsifier	40	26	10	24	83	76	80	85	60%	74%	90%	76%	**75%**	17%	24%	20%	15%	**19%**	**-28%**
NEW SEED	1000 ppm, 5% Emulsifier	30	31	18	22	81	80	70	76	70%	69%	82%	78%	**75%**	19%	20%	30%	24%	**23%**	**-23%**
NEW SEED	1000 ppm, 50% Emulsifier	31	11	3	41	36	13	12	41	69%	89%	97%	59%	**79%**	64%	87%	88%	59%	**75%**	**28%**
		Date of Count = 11/8/1999																	
		Elapsed Time from Treatment = 11 Days																	
OLD SEED	Control 0 ppm, 0% Emulsifier	0	1	0	1	0	1	0	1	100%	99%	100%	99%	**100%**	100%	99%	100%	99%	**100%**	**0%**
OLD SEED	0 ppm, 5% Emulsifier	2	2	0	1	2	2	0	1	98%	98%	100%	99%	**99%**	98%	98%	100%	99%	**99%**	**-1%**
OLD SEED	0 ppm, 50% Emulsifier	1	0	0	1	1	0	0	1	99%	100%	100%	99%	**100%**	99%	100%	100%	99%	**100%**	**0%**
OLD SEED	500 ppm, 5% Emulsifier	2	0	0	0	2	0	0	0	98%	100%	100%	100%	**100%**	98%	100%	100%	100%	**100%**	**0%**
OLD SEED	500 ppm, 50% Emulsifier	3	2	3	0	3	2	3	0	97%	98%	97%	100%	**98%**	97%	98%	97%	100%	**98%**	**-2%**
OLD SEED	1000 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
OLD SEED	1000 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**

NEW SEED SIGNIFICANT DIFFERENCE @ 99%

Anova Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	4	1 86	0 465	0.0023
Row 2	4	0 88	0 22	0 00046667
Row 3	4	0 9	0 225	0.00296667
Row 4	4	0 67	0.1675	0.007025
Row 5	4	0 76	0.19	0.00153333
Row 6	4	0.93	0.2325	0.00249167
Row 7	4	2 98	0 745	0.02296667

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.073936	6	0.178989	31.5201258	1.87E-09	3.811749
Within Groups	0 11925	21	0 005679			
Total	1.193186	27				

OLD SEED SIGNIFICANT DIFFERENCE @ 95%

Anova, Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	4	3.98	0.995	3.3333E-05
Row 2	4	3 95	0.9875	9.1667E-05
Row 3	4	3 98	0.995	3.3333E-05
Row 4	4	3.98	0.995	1E-04
Row 5	4	3.92	0.98	0.0002
Row 6	4	4	1	0
Row 7	4	4	1	0

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0 00124	6	0 00021	3.14545455	0.02324	2.57271
Within Groups	0.00137	21	6.5E-05			
Total	0.00261	27				

FIG. 7b

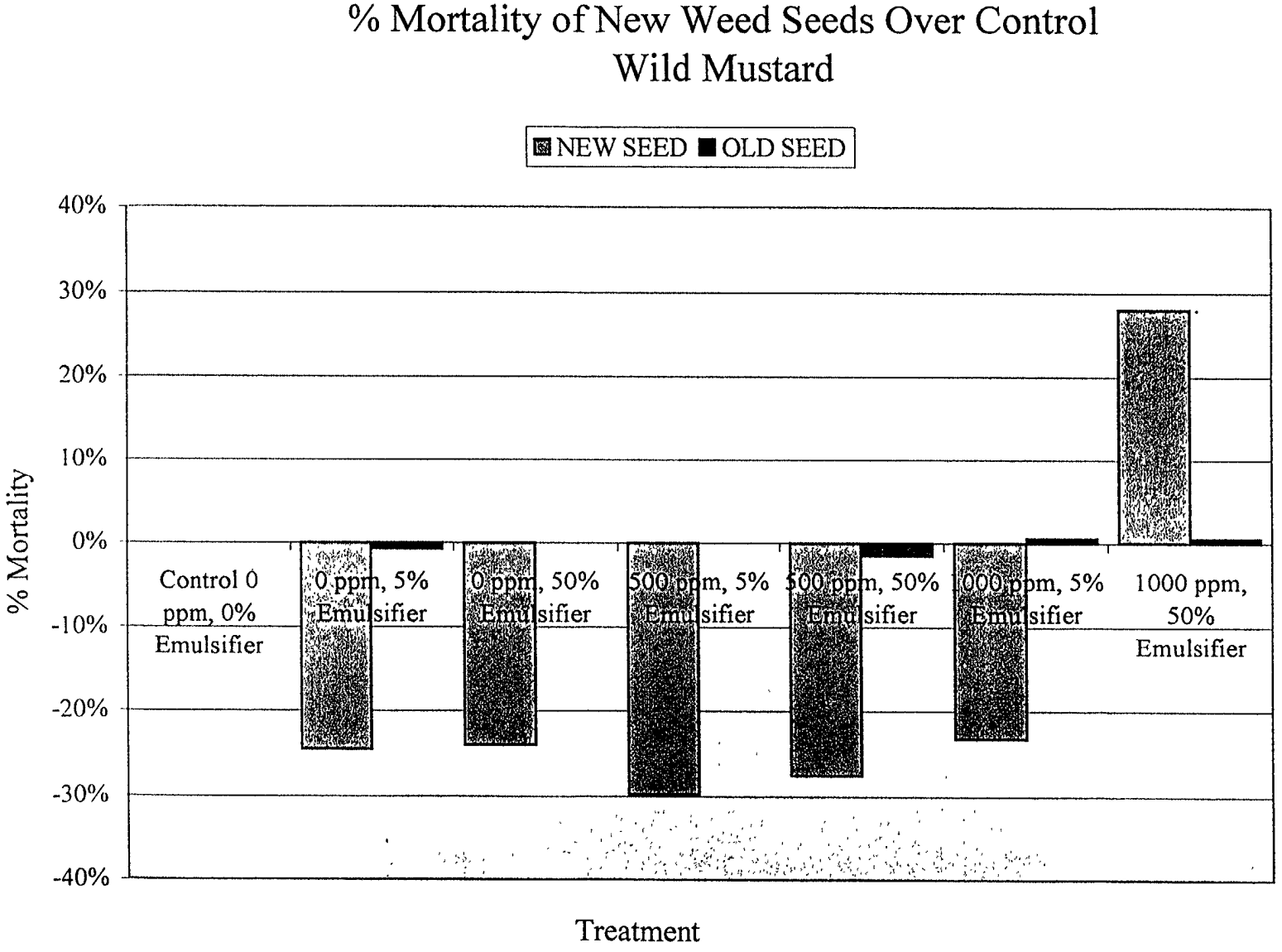

% Mortality of New Weed Seeds Over Control
Wild Mustard
NEW SEED
OLD SEED
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%
% Mortality
Control 0 ppm, 0% Emulsifier
0 ppm, 5% Emulsifier
0 ppm, 50% Emulsifier
500 ppm, 5% Emulsifier
500 ppm, 50% Emulsifier
1000 ppm, 5% Emulsifier
1000 ppm, 50% Emulsifier
Treatment

FIG. 8a

TC343.? Chloropicrin EC - Lab Tests for Weed Seed Mortality
YELLOW
NUTGRASS

Weed Seed: *Cyperus esculintus* Treatment Date = 10/28/1999 Number of Seeds/Dish = 100

		Seed Germination Counts								(% Mortality)										
		Date of Count = 11/5/1999 Elapsed Time from Treatment = 8 Days				Date of Count = 11/9/1999 Elapsed Time from Treatment = 12 Days														
	Treatment	1st Count				2nd Count				1st Count				1st Count at 8 Days	2nd Count				2nd Count at 12 Days	% Mortality Above Control
Seed Age	Treatment Solution	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Mean	Rep 1	Rep 2	Rep 3	Rep 4	Mean	
NEW SEED	Control 0 ppm, 0% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
NEW SEED	0 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
NEW SEED	0 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
NEW SEED	500 ppm, 5% Emulsifier	0	0	0	0	0	0	0	5	100%	100%	100%	100%	**100%**	100%	100%	100%	95%	**99%**	**-1%**
NEW SEED	500 ppm, 50% Emulsifier	0	0	0	0	0	0	0	2	100%	100%	100%	100%	**100%**	100%	100%	100%	98%	**100%**	**-1%**
NEW SEED	1000 ppm, 5% Emulsifier	0	0	0	0	1	2	0	0	100%	100%	100%	100%	**100%**	99%	98%	100%	100%	**99%**	**-1%**
NEW SEED	1000 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
		Date of Count = 11/8/1999 Elapsed Time from Treatment = 11 Days																		
OLD SEED	Control 0 ppm, 0% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
OLD SEED	0 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
OLD SEED	0 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
OLD SEED	500 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
OLD SEED	500 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
OLD SEED	1000 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**
OLD SEED	1000 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	**100%**	100%	100%	100%	100%	**100%**	**0%**

NEW SEED **No Significance** OLD SEED **No Significance**

Anova Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Row 1	4	4	1	0
Row 2	4	4	1	0
Row 3	4	4	1	0
Row 4	4	3.95	0.9875	0.000625
Row 5	4	3.98	0.995	1E-04
Row 6	4	3.97	0.9925	9.1667E-05
Row 7	4	4	1	0

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.000593	6	9.88E-05	0.84693878	0.548452	2.572712
Within Groups	0.00245	21	0.000117			
Total	0.003043	27				

Fig. 8b

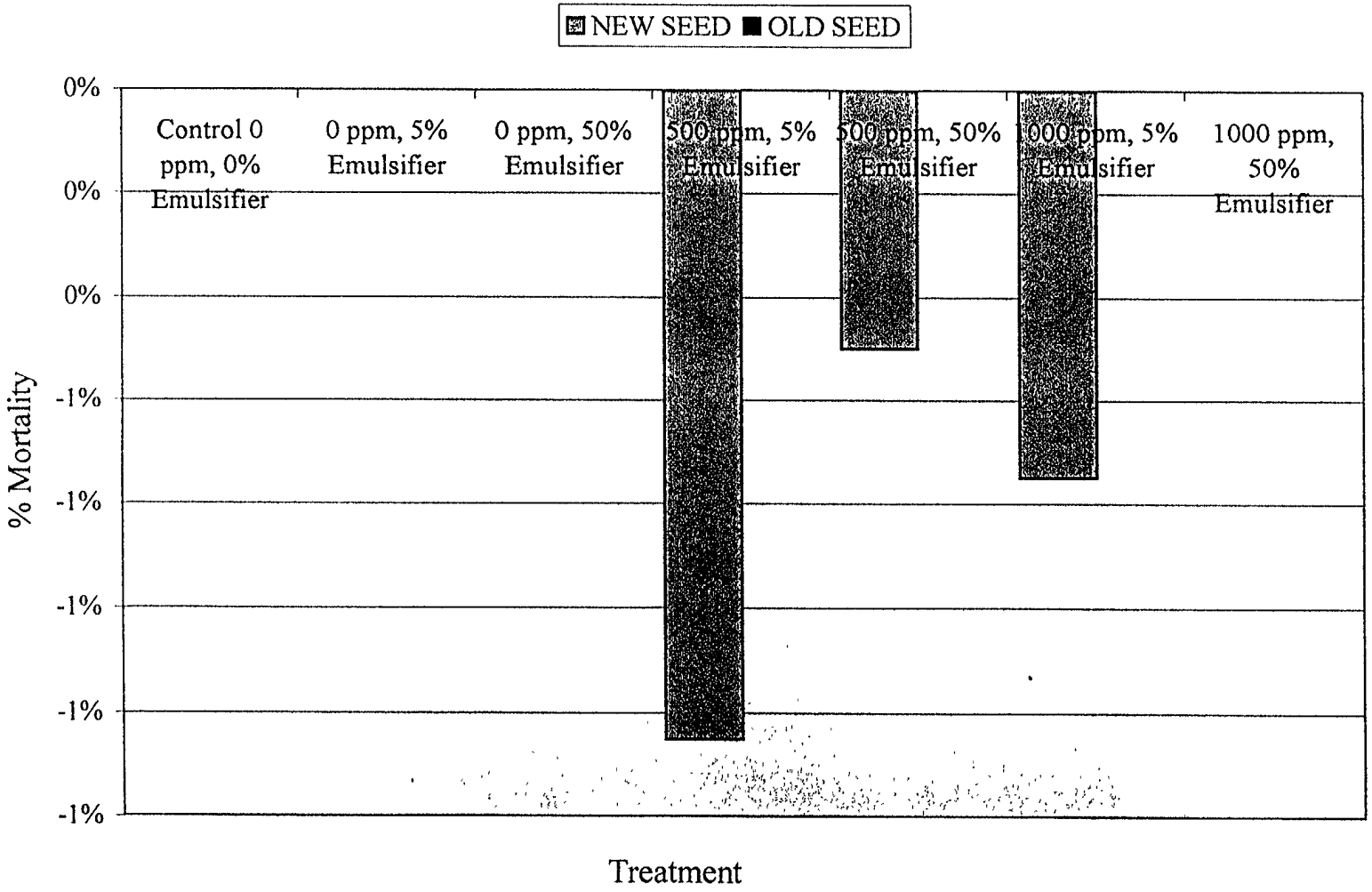

% Mortality of New Weed Seeds Over Control
Yellow Nutgrass
NEW SEED
OLD SEED
0%
0%
0%
-1%
-1%
-1%
-1%
-1%
% Mortality
Control 0 ppm, 0% Emulsifier
0 ppm, 5% Emulsifier
0 ppm, 50% Emulsifier
500 ppm, 5% Emulsifier
500 ppm, 50% Emulsifier
1000 ppm, 5% Emulsifier
1000 ppm, 50% Emulsifier
Treatment

FIG. 9a

Chloropicrin EC - Lab Tests for Weed Seed Mortality

YELLOW SWEET CLOVER

Weed Seed: *Melilotus indica* Treatment Date = 10/28/1999 Number of Seeds/Dish = 100

Seed Age	Treatment Solution	Seed Germination Counts: 1st Count (Date of Count = 11/5/1999, Elapsed Time from Treatment = 8 Days) Rep 1	Rep 2	Rep 3	Rep 4	Seed Germination Counts: 2nd Count (Date of Count = 11/9/1999, Elapsed Time from Treatment = 12 Days) Rep 1	Rep 2	Rep 3	Rep 4	(% Mortality): 1st Count Rep 1	Rep 2	Rep 3	Rep 4	1st Count at 8 Days Mean	(% Mortality): 2nd Count Rep 1	Rep 2	Rep 3	Rep 4	2nd Count at 12 Days Mean	% Mortality Above Control
NEW SEED	Control 0 ppm, 0% Emulsifier	15	8	10	8	22	10	10	8	85%	92%	90%	92%	90%	78%	90%	90%	92%	88%	0%
NEW SEED	0 ppm, 5% Emulsifier	12	17	14	5	14	18	17	7	88%	83%	86%	95%	88%	86%	82%	83%	93%	86%	-2%
NEW SEED	0 ppm, 50% Emulsifier	28	24	23	20	29	33	30	20	72%	76%	77%	80%	76%	71%	67%	70%	80%	72%	-16%
NEW SEED	500 ppm, 5% Emulsifier	25	5	0	8	25	5	0	8	75%	95%	100%	92%	91%	75%	95%	100%	92%	91%	3%
NEW SEED	500 ppm, 50% Emulsifier	5	2	3	2	5	2	3	2	95%	98%	97%	98%	97%	95%	98%	97%	98%	97%	10%
NEW SEED	1000 ppm, 5% Emulsifier	1	11	0	4	1	11	0	4	99%	89%	100%	96%	96%	99%	89%	100%	96%	96%	9%
NEW SEED	1000 ppm, 50% Emulsifier	3	0	0	0	3	0	0	0	97%	100%	100%	100%	99%	97%	100%	100%	100%	99%	12%
		Date of Count = 11/8/1999, Elapsed Time from Treatment = 11 Days																		
OLD SEED	Control 0 ppm, 0% Emulsifier	4	3	3	4	4	3	3	4	96%	97%	97%	96%	97%	96%	97%	97%	96%	97%	0%
OLD SEED	0 ppm, 5% Emulsifier	7	12	12	7	7	12	12	7	93%	88%	88%	93%	91%	93%	88%	88%	93%	91%	-6%
OLD SEED	0 ppm, 50% Emulsifier	3	1	2	3	3	1	3	7	97%	99%	98%	97%	98%	97%	99%	97%	93%	97%	0%
OLD SEED	500 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	4%
OLD SEED	500 ppm, 50% Emulsifier	1	0	12	0	1	0	12	0	99%	100%	88%	100%	97%	99%	100%	88%	100%	97%	0%
OLD SEED	1000 ppm, 5% Emulsifier	0	0	0	0	3	3	5	0	100%	100%	100%	100%	100%	97%	97%	95%	100%	97%	1%
OLD SEED	1000 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	4%

NEW SEED — SIGNIFICANT DIFFERENCE @ 99%

Anova Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	4	3.5	0.875	0.0041
Row 2	4	3.44	0.86	0.0024667
Row 3	4	2.88	0.72	0.0031333
Row 4	4	3.62	0.905	0.0117667
Row 5	4	3.88	0.97	0.0002
Row 6	4	3.84	0.96	0.0024667
Row 7	4	3.97	0.9925	0.000225

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.20665	6	0.034442	9.8977078	3.16E-05	3.811749
Within Groups	0.073075	21	0.00348			
Total	0.279725	27				

OLD SEED — SIGNIFICANT DIFFERENCE @ 99%

Anova Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	4	3.86	0.965	3.33333E-05
Row 2	4	3.62	0.905	0.000833333
Row 3	4	3.86	0.965	0.000833333
Row 4	4	4	1	0
Row 5	4	3.87	0.9675	0.003425
Row 6	4	3.89	0.9725	0.000425
Row 7	4	4	1	0

ANOVA

Source of Vana	SS	df	MS	F	P-value	F crit
Between	0.02422	6	0.00404	5.281931464	0.00186	3.81175
Within Gr	0.01605	21	0.00076			
Total	0.04027	27				

Fig. 9b

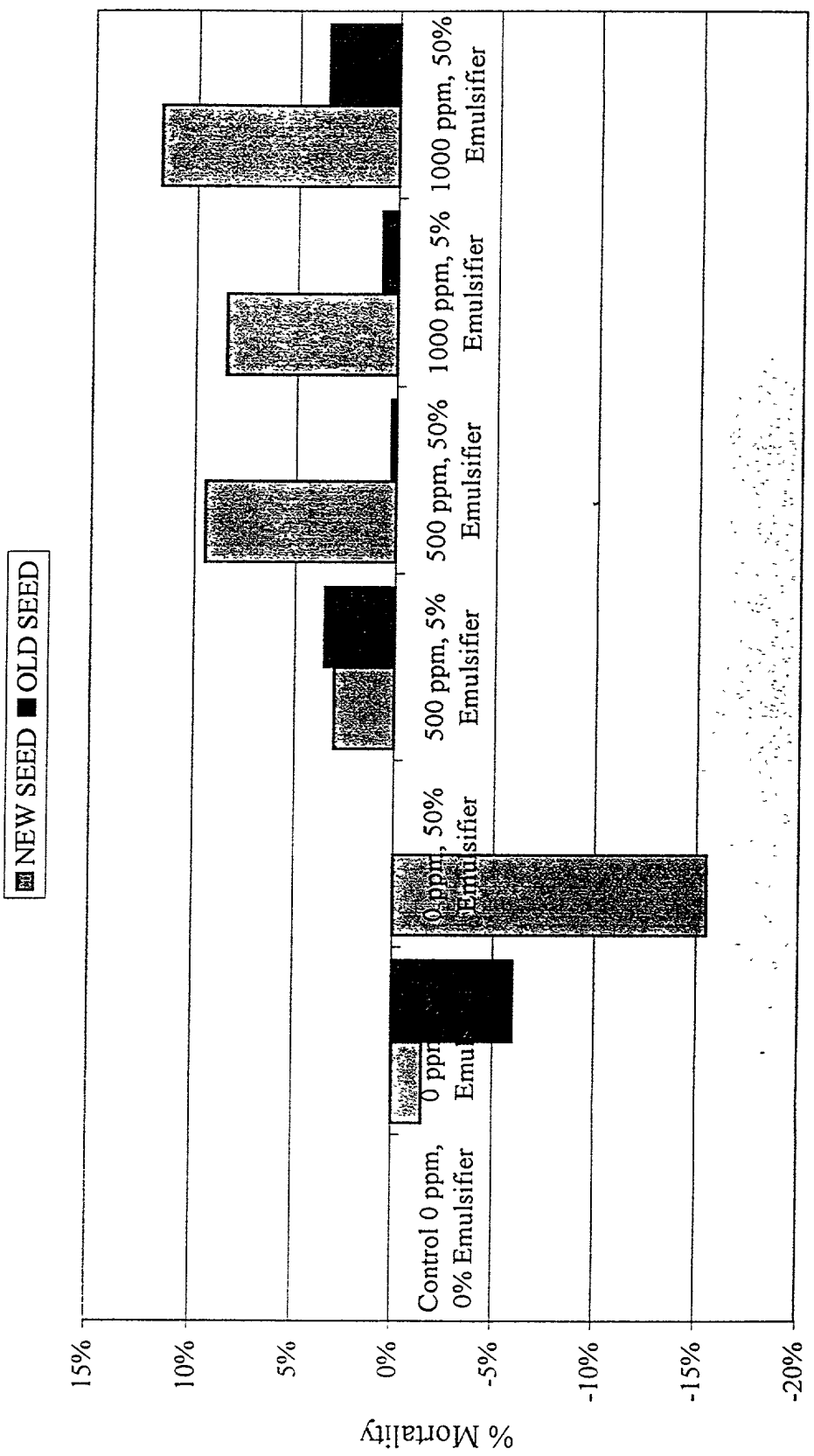

% Mortality of New Weed Seeds Over Control
Yellow Sweet Clover
NEW SEED
OLD SEED
15%
10%
5%
0%
-5%
-10%
-15%
-20%
% Mortality
Control 0 ppm, 0% Emulsifier
500 ppm, 5% Emulsifier
500 ppm, 50% Emulsifier
1000 ppm, 5% Emulsifier
1000 ppm, 50% Emulsifier
Treatment

Fig. 10a

T..343.? Chloropicrin EC - Lab Tests for Weed Seed Mortality

BARNYARD GRASS

Weed Seed: Echinochloa crusgalli Treatment Date = 10/28/1999 Number of Seeds/Dish = 100

Seed Age	Treatment Solution	Seed Germination Counts: 1st Count (Date of Count = 11/5/1999, Elapsed Time from Treatment = 8 Days) Rep 1	Rep 2	Rep 3	Rep 4	Seed Germination Counts: 2nd Count (Date of Count = 11/9/1999, Elapsed Time from Treatment = 12 Days) Rep 1	Rep 2	Rep 3	Rep 4	(% Mortality): 1st Count Rep 1	Rep 2	Rep 3	Rep 4	1st Count at 8 Days Mean	(% Mortality): 2nd Count Rep 1	Rep 2	Rep 3	Rep 4	2nd Count at 12 Days Mean	% Mortality Above Control
NEW SEED	Control 0 ppm, 0% Emulsifier	100	100	88	41	100	100	94	82	0%	0%	12%	59%	18%	0%	0%	6%	18%	6%	0%
NEW SEED	0 ppm, 5% Emulsifier	10	98	97	99	80	100	100	100	90%	2%	3%	1%	24%	20%	0%	0%	0%	5%	-1%
NEW SEED	0 ppm, 50% Emulsifier	95	100	15	90	97	100	15	94	5%	0%	85%	10%	25%	3%	0%	85%	6%	24%	18%
NEW SEED	500 ppm, 5% Emulsifier	43	90	89	79	100	97	90	88	57%	10%	11%	21%	25%	0%	3%	10%	12%	6%	0%
NEW SEED	500 ppm, 50% Emulsifier	31	6	15	100	59	23	25	100	69%	94%	85%	0%	62%	41%	77%	75%	0%	48%	42%
NEW SEED	1000 ppm, 5% Emulsifier	24	89	95	98	31	93	95	95	95%	95%	5%	2%	49%	69%	7%	5%	5%	22%	16%
NEW SEED	1000 ppm, 50% Emulsifier	42	6	12	32	81	8	7	34	58%	94%	88%	68%	77%	19%	92%	93%	66%	68%	62%
		Date of Count = 11/8/1999, Elapsed Time from Treatment = 11 Days																		
OLD SEED	Control 0 ppm, 0% Emulsifier	80	95	100	100	95	97	100	100	20%	5%	0%	0%	6%	5%	3%	0%	0%	2%	0%
OLD SEED	0 ppm, 5% Emulsifier	100	100	100	100	100	100	100	100	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-2%
OLD SEED	0 ppm, 50% Emulsifier	97	93	99	100	100	100	100	100	3%	7%	1%	0%	3%	0%	0%	0%	0%	0%	-2%
OLD SEED	500 ppm, 5% Emulsifier	50	93	95	9	50	93	95	17	50%	7%	5%	91%	38%	50%	7%	5%	83%	36%	34%
OLD SEED	500 ppm, 50% Emulsifier	99	98	89	92	100	100	95	95	1%	2%	11%	8%	6%	0%	0%	5%	5%	3%	1%
OLD SEED	1000 ppm, 5% Emulsifier	46	100	98	20	85	100	100	28	54%	0%	2%	80%	34%	15%	0%	0%	72%	22%	20%
OLD SEED	1000 ppm, 50% Emulsifier	93	88	82	90	99	94	95	93	7%	12%	18%	10%	12%	1%	6%	5%	7%	5%	3%

53%

NEW SEED
Anova Single Factor

SIGNIFICANT DIFFERENCE @ 99%

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	4	0 24	0.06	0.0072
Row 2	4	0 2	0 05	0 01
Row 3	4	0 94	0 235	0.1687
Row 4	4	0 25	0.0625	0 003225
Row 5	4	1.93	0 4825	0.13075833
Row 6	4	0 86	0 215	0 10036667
Row 7	4	2 7	0.675	0 12016667

ANOVA

Source of Variation	SS	df	MS	F	P-value	F cnt
Between Groups	1 389036	6	0 231506	2.99868928	0 028176	2.572712
Within Groups	1 62125	21	0 077202			
Total	3 010286	27				

OLD SEED
Anova Single Factor

No Significance

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	4	0.08	0 02	0 0006
Row 2	4	0	0	0
Row 3	4	0	0	0
Row 4	4	1 45	0.3625	0 140225
Row 5	4	0 1	0 025	0 000833333
Row 6	4	0 87	0 2175	0.117225
Row 7	4	0 19	0 0475	0 000691667

ANOVA

Source of Variation	SS	df	MS	F	P-value	F cnt
Between Groups	0.46954	6	0.07826	2.110372725	0 09515	2 57271
Within Groups	0.77873	21	0 03708			
Total	1 24827	27				

FIG. 10b

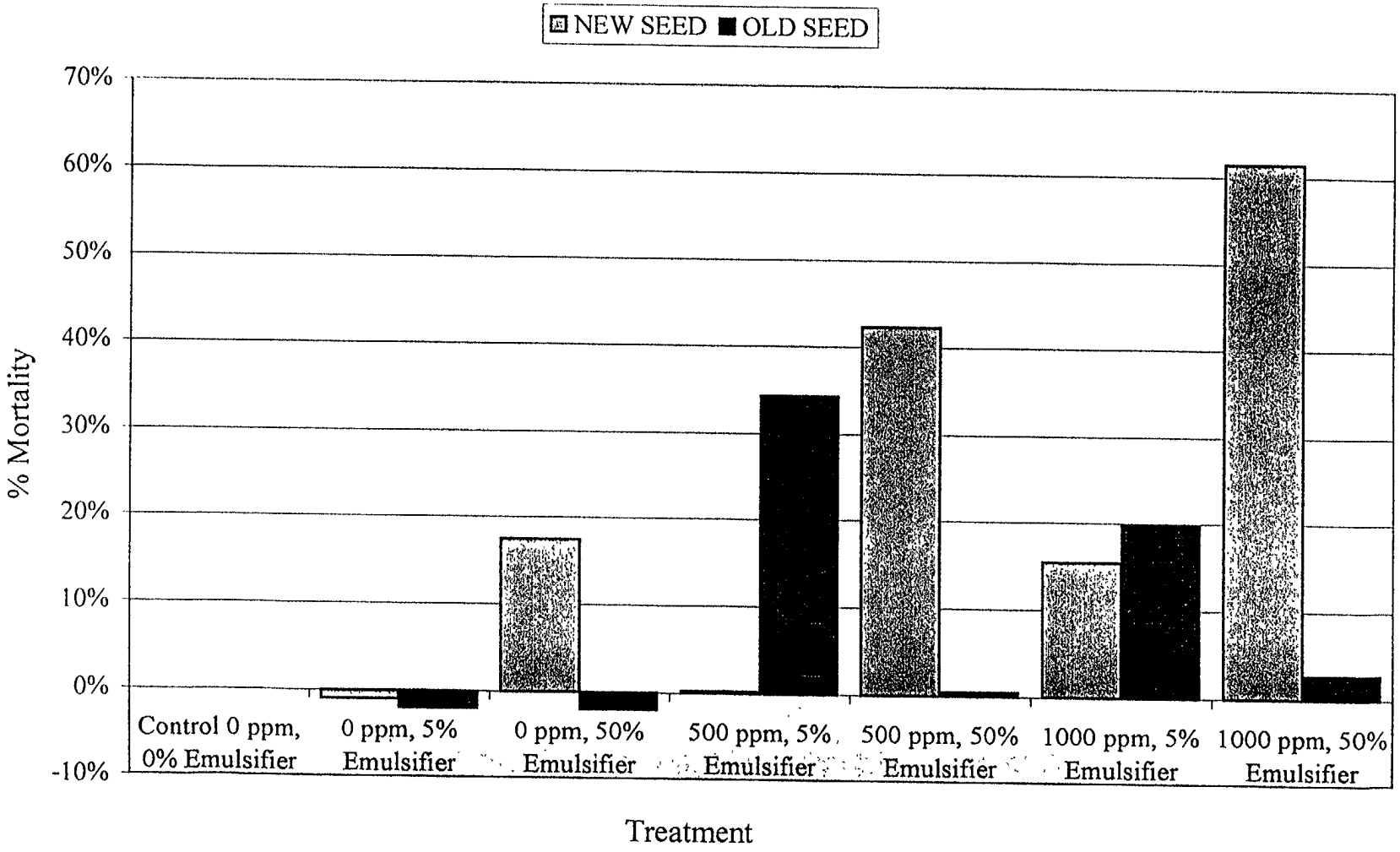

% Mortality of New Weed Seeds Over Control
Barnyard Grass
NEW SEED
OLD SEED
70%
60%
50%
40%
30%
20%
10%
0%
-10%
% Mortality
Control 0 ppm, 0% Emulsifier
0 ppm, 5% Emulsifier
0 ppm, 50% Emulsifier
500 ppm, 5% Emulsifier
500 ppm, 50% Emulsifier
1000 ppm, 5% Emulsifier
1000 ppm, 50% Emulsifier
Treatment

FIG. 11a

C343.3 Chloropicrin EC - Lab Tests for Weed Seed Mortality

BINDWEED

Weed Seed: *Convolvulus arvensis* Treatment Date = 10/28/1999 Number of Seeds/Dish = 100

		Seed Germination Counts								(% Mortality)									
		Date of Count = 11/5/1999				Date of Count = 11/9/1999													
		Elapsed Time from Treatment = 8 Days				Elapsed Time from Treatment = 12 Days													
	Treatment	1st Count				2nd Count				1st Count				1st Count at 8 Days	2nd Count				2nd Count at 12 Days	% Mortality Above Control
Seed Age	Treatment Solution	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Mean	Rep 1	Rep 2	Rep 3	Rep 4	Mean	
NEW SEED	Control 0 ppm, 0% Emulsifier	15	20	23	28	80	84	83	78	85%	80%	77%	72%	**79%**	20%	16%	17%	22%	**19%**	**0%**
NEW SEED	0 ppm, 5% Emulsifier	16	22	23	14	29	29	27	18	84%	78%	77%	86%	**81%**	71%	71%	73%	82%	**74%**	**56%**
NEW SEED	0 ppm, 50% Emulsifier	19	15	15	16	51	63	55	65	81%	85%	85%	84%	**84%**	49%	37%	45%	35%	**42%**	**23%**
NEW SEED	500 ppm, 5% Emulsifier	12	16	14	7	54	63	55	65	88%	84%	86%	93%	**88%**	46%	37%	45%	35%	**41%**	**22%**
NEW SEED	500 ppm, 50% Emulsifier	25	13	22	17	62	13	74	56	75%	87%	78%	83%	**81%**	38%	87%	26%	44%	**49%**	**30%**
NEW SEED	1000 ppm, 5% Emulsifier	8	15	5	12	14	20	10	16	92%	85%	95%	88%	**90%**	86%	80%	90%	84%	**85%**	**66%**
NEW SEED	1000 ppm, 50% Emulsifier	5	8	3	4	7	15	7	10	95%	92%	97%	96%	**95%**	93%	85%	93%	90%	**90%**	**72%**
OLD SEED	Control 0 ppm, 0% Emulsifier																			
OLD SEED	0 ppm, 5% Emulsifier																			
OLD SEED	0 ppm, 50% Emulsifier																			
OLD SEED	500 ppm, 5% Emulsifier																			
OLD SEED	500 ppm, 50% Emulsifier																			
OLD SEED	1000 ppm, 5% Emulsifier																			
OLD SEED	1000 ppm, 50% Emulsifier																			

NEW SEED

SIGNIFICANT DIFFERENCE @ 99%

Anova Single Factor

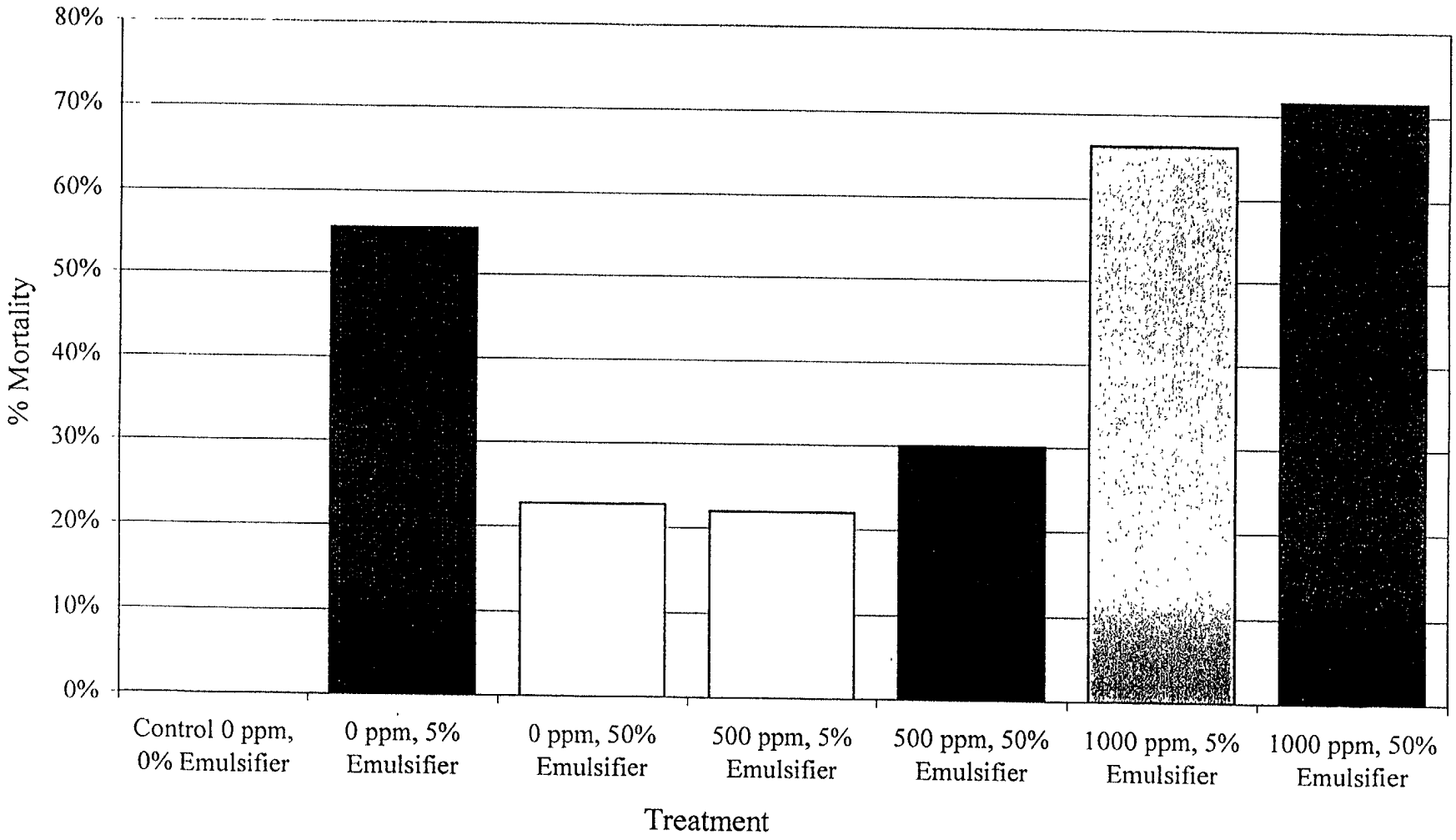
SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Row 1	4	0 75	0.1875	0.0007583
Row 2	4	2 97	0 7425	0.0027583
Row 3	4	1 66	0.415	0.0043667
Row 4	4	1.63	0.4075	0 0030917
Row 5	4	1 95	0.4875	0.070625
Row 6	4	3 4	0.85	0 0017333
Row 7	4	3 61	0.9025	0 001425

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1 689021	6	0.281504	23.248746	2.97E-08	3.811749
Within Groups	0 254275	21	0.012108			
Total	1 943296	27				

Fig. 11b.


% Mortality of New Weed Seeds Over Control Bindweed
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Mortality
Control 0 ppm, 0% Emulsifier
0 ppm, 5% Emulsifier
0 ppm, 50% Emulsifier
500 ppm, 5% Emulsifier
500 ppm, 50% Emulsifier
1000 ppm, 5% Emulsifier
1000 ppm, 50% Emulsifier
Treatment